

## CLAIMS:

1. A method of irradiating a layer (3) including:  
directing and focusing a radiation beam (7) to a spot (11) on said layer (3) by means of at least one optical element (59);  
causing relative movement of the layer (3) relative to said at least one optical  
5 element (59) so that, successively, different portions of the layer (3) are irradiated and an interspace (53) between a surface of said at least one optical element (59) nearest to said layer (3) is maintained; and  
maintaining at least a portion of said interspace (53) through which said radiation irradiates said spot (11) on said layer (3) filled with a liquid (91) supplied via a  
10 supply conduit;  
characterized by directing gas (71-73) to said layer (3); and  
removing supplied liquid (91) from said layer (3) in the vicinity of a flow of said gas (71-73).
- 15 2. A method according to claim 1, wherein said gas (71-73) is supplied at a pressure sufficiently high to cause a net gas flow (71-73) in a direction along said layer (3) opposite to the direction (30) of said movement of said layer (3).
3. A method according to claim 1 or 2, wherein the flow of said gas (71-73) is  
20 entered into an interspace between said layer (3) and a boundary surface (83) having a width of at least 2  $\mu\text{m}$  and preferably at least 5  $\mu\text{m}$  and at most 100  $\mu\text{m}$  and preferably 30  $\mu\text{m}$ .
4. A method according to claim 3, wherein the liquid (91) forms a film on said layer (3) having a thickness, and wherein an interspace (86) between said layer (3) and a  
25 surface (87) facing said layer (3) upstream of an area where the liquid is discharged is larger than the thickness of said film.

5. A method according to any one of the preceding claims, wherein liquid (91) and gas are drawn away from said layer (3) at a higher flow rate than the sum of the flow rates of said gas flow (71-73) and the supply of said liquid (91).

5 6. A method according to any one of the preceding claims, wherein said gas (71-73) is air.

7. A device for directing radiation to a layer (3) including:  
at least one optical element (59) for focusing a beam (7) of radiation  
10 originating from a radiation source (33) to a spot (11) on said layer (3);  
a displacement structure for causing relative movement of the layer (3) relative to said at least one optical element (59) so that, successively, different portions of the layer (3) are irradiated and an interspace (53) between said layer (3) and a surface of said at least one optical element (59) nearest to said spot (11) is maintained; and  
15 an outflow opening for supplying liquid (91) to at least a portion of said interspace (53) through which, in operation, said radiation irradiates said spot (11) on said layer (3);  
characterized by a gas outflow opening (70) for directing a gas flow (71-73) to said layer (3); and  
20 a discharge channel (76) having an inlet (77) in the vicinity of said gas outflow opening (70) for drawing away liquid (91) from the layer (3).

8. A device according to claim 7, wherein said gas outflow opening (70) for directing said gas flow (71-73) is a slit.

25 9. A device according to claim 7 or 8, wherein said discharge channel (76) communicates with a vacuum source (81).

10 10. A device according to any one of the claims 7-9, wherein said gas outflow opening (70) and said inlet (77) of said discharge channel (76) extend about said interspace (53).